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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/612,319	07/01/2003	Ken Sumitani	299002056600	4067

25226 7590 12/14/2004
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EXAMINER

NGUYEN, DANG T

ART UNIT PAPER NUMBER

2824

DATE MAILED: 12/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/612,319	SUMITANI, KEN	
	Examiner	Art Unit	
	Dang T Nguyen	2824	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 October 2004.
 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 1, 6 and 7 is/are rejected.
 7) ☒ Claim(s) 2-5 is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☒ The drawing(s) filed on 01 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input checked="" type="checkbox"/> Other: <u>Search history</u> . |

DETAILED ACTION

1. This office is in response to applicant's amendment filed on 10/12/04. Claims 1 – 5 have been amended. Claims 1 – 7 are pending on this application.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 and 6 are rejected under 35 U.S.C. 102(e) as being anticipated by Uchida et al., Patent No. US 6,636,444 B2 - filed Jan. 29, 2002.

Regarding independent claim 1, Uchida et al. discloses a semiconductor memory device, comprising: a memory array comprising a plurality of memory cells (Fig. 5B [32]); a page buffer section (Figs. 1A and 1B [115]) for temporarily storing data to be written into the memory array (Fig. 1B [129] Col. 5 line 27); and a masking section for masking at least a portion of data read from the page buffer section (Figs. 8A and 8B Col. 10 lines 24-25) based on a characteristic of a particular write operation regarding that data (Col. 2 line 56 – Col. 3 line 11) and (Col. 5 lines 14 – 25 disclosing masking the associated write data based, and masking supplied from command characteristic of write signal).

Regarding dependent claim 6, Uchida discloses wherein the masking section comprises a deactivation section for deactivating a portion of the data read from page buffer section (Col. 2 lines 8 – 11 disclosing “disable” is another term for “deactivate”).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uchida et al., Patent No. US 6,636,444 B2 - filed Jan. 29, 2002 in view of Applicant Admitted Prior Art (AAPA).

Uchida et al. as applied to claim 1 above, fails to disclose wherein each of the plurality of memory cells is a multi-value memory cell capable of storing at least three values; and the semiconductor memory device comprises a page mode read section for simultaneously reading some of the plurality of memory cells.

AAPA discloses a flash memory has multi-value memory cells in which three or more values can be stored (page 15 lines 1-5): and the flash memory provides a page mode reading function for simultaneously reading some of the plurality of memory cells (page 15 lines 10-20).

Uchida and AAPA are common subject matter for reading/writing data from/into memory device. Therefore it would have been obvious to one ordinary skill in the art at the time the invention was made to combine Uchida and AAPA for the purpose of

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providing multiple values from the memory cell, which improving reading and writing speeds of the memory (taught by AAPA).

Allowable Subject Matter

4. Claims 2 – 5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

With respect to claim 2, the primary reason for indication of allowable subject matter is that the prior art fails to teach or suggest “wherein the characteristic of write operation is a data bus width in the semiconductor memory device”.

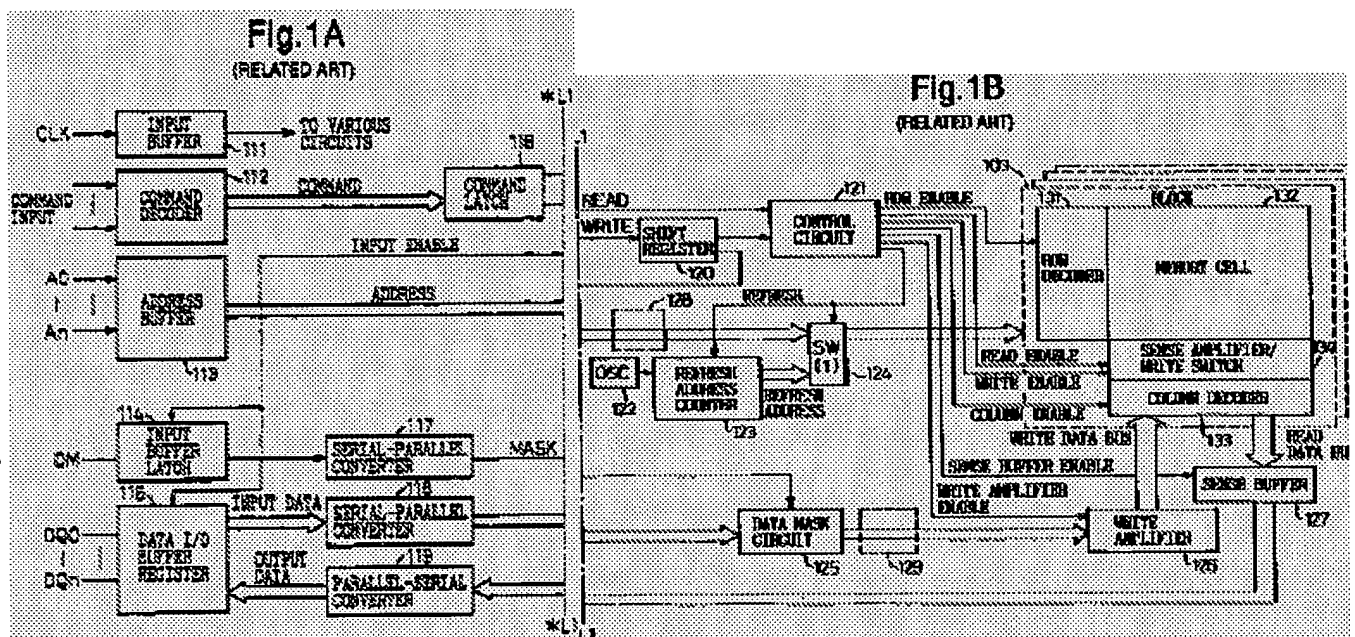
With respect to claim 3, the primary reason for indication of allowable subject matter is that the prior art fails to teach or suggest “wherein the characteristic of write operation is a result of the comparison by the comparator”.

With respect to claim 4, the primary reason for indication of allowable subject matter is that the prior art fails to teach or suggest “wherein the characteristic of write operation is a result of the determination by the matching detection section”.

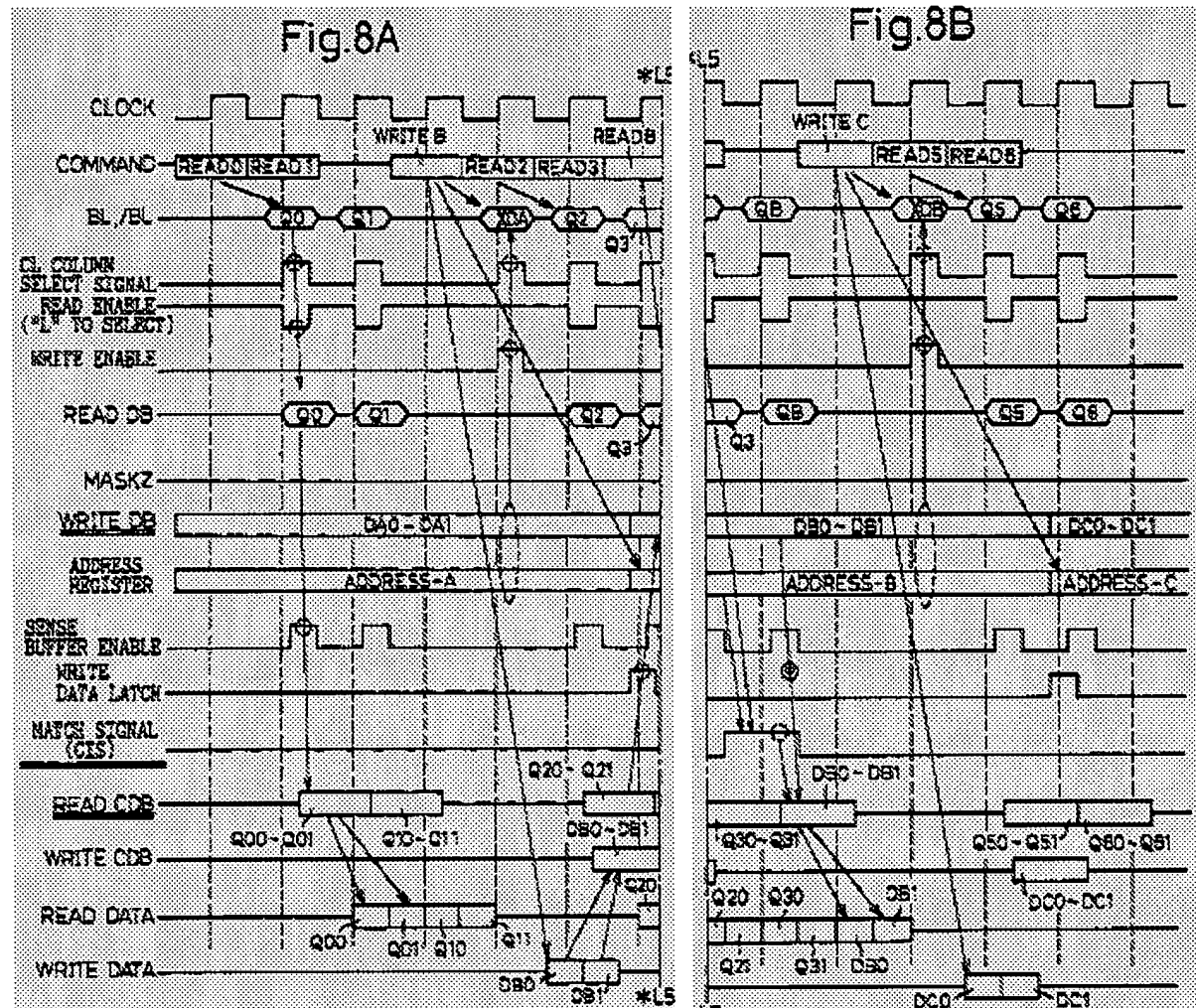
With respect to claim 5, the primary reason for indication of allowable subject matter is that the prior art fails to teach or suggest “wherein the characteristic of write operation is a data result of the counting by the counter section”.

Response to Arguments

5. With respect to claim 1, under Remarks, applicant argued that Uchida does not anticipated “masking section is based on a characteristic of a particular write operation regarding that data”. Examiner respectfully disagrees from the following:



Figs. 1A and 1B of Uchida et al. clearly disclosing masking is based on a characteristic of write operation regarding to that data (Col. 5 lines 14 – 25 disclosing masking the associated write data based, and masking supplied from command characteristic of write signal), and



Figs. 8A and 8B of Uchida et al. discloses a portion of masking data is based on a characteristic of a particular write operation regarding that data (Col. 10 lines 23-29).

6. With respect to claims 6 and 7, under remark applicant's argued that "combined of Uchida and AAPA are improper because of lacks of motivation or suggestion from references, or knowledge held by ordinary skill in the art, to make combination".

Examiner respectful disagrees from the following:

Uchida and AAPA are common subject matter for reading/writing data from/into memory device. Therefore it would have been obvious to one ordinary skill in the art at the time the invention was made to combine Uchida and AAPA for the purpose of providing multi-values from the memory cell, which improving reading and writing speeds of the memory (taught by AAPA).

7. With respect to amended claims 2 - 5 have been fully considered and are persuasive.

Prior art

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Yamagata et al. Patent No. 5,930,194 Date of Patent: Jul. 27, 1999

Koshikawa Pub. No.: US 2001/0004329 A1 Pub. Date: Jun. 21, 2001

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

10. Any inquiry concerning this communication from the examiner should be directed to Dang Nguyen, who can be reached by telephone at (571) 272-1955. Normal contact times are M-F, 8:00 AM - 4:30 PM.

Upon an unsuccessful attempt to contact the examiner, the examiner's supervisor, Richard Elms, may be reached at (571) 272-1869.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist, whose telephone number is (703) 305-3900. The faxed phone number for organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the Status of an application may be obtained from the patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or EBC@uspto.gov.



MICHAEL S. LEBENTRITT
PRIMARY EXAMINER

Dang Nguyen 12/10/2004

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